

DOH ARBOVIRUS WEEKLY UPDATE

May 11, 2003

West Nile virus is an emerging infectious disease, and only appeared in the eastern United States in 1999. Since that time, the virus has spread to forty-four states in the United States. As part of the West Nile virus surveillance system, the Department of Health (DOH) conducts human, avian, mammal and mosquito surveillance and keeps extensive database and spreadsheet records detailing the surveillance. DOH established a West Nile virus Call Center number at (202) 535-2323, a health care and question line at (202) 671-0733 and extensive web site information at www.dchealth.dc.gov.

The chances of developing symptoms of West Nile virus from the bite of a mosquito are very remote. Much less than one percent of mosquitoes test positive for the virus in areas where the virus is present. And, if bitten by an infected mosquito, a person has less than a one percent chance that he or she will develop symptoms. Generally, the symptoms are very mild and may not even be noticed. Only in very rare cases will the symptoms be severe. Individuals over the age of 60 are the population most at risk. For 2002, the median age for human disease was fifty-five and the median age for mortality was 78. Any person who suspects that they have the virus should contact their doctor immediately.

DOH has trained staff to assist residents with identifying and eliminating potential mosquito-breeding sites and to speak at neighborhood meetings and health fairs. The fundamental components of the West Nile virus plan are prevention and personal protection.

The West Nile virus program is a fluid program that is continually evaluated and altered to protect the public. Mosquito surveillance has been enhanced to assess the risk to public health and safety in the District. It is paramount to track positive mosquito pools and species. As a result of this increased mosquito surveillance, new species of mosquitoes have been identified as positive for West Nile virus in the District.

In 2002, six pools of *Aedes albopictus* tested positive in the District. This species is a daytime human biter and causes increased concern. Previously only *Culex sp.*, a dawn and dusk feeder, tested positive. As a result, DOH has added precautions of protecting residents against mosquito bites at all times during the day and not just dawn and dusk.

2003 West Nile Virus Cases

Equine

The nation's first equine case occurred in Minnesota where a 5 year old mare tested positive for West Nile virus and was destroyed on April 19, 2003. The mare first showed symptoms one week prior. The horse had not received a booster vaccination.

Avian

Birds have tested positive for WNV in Georgia, Louisiana and Florida and also in Canada and Mexico.

Mosquito

A positive mosquito was collected in Lehigh County, Louisiana. The mosquito is thought to have over-wintered.

CALL CENTER

- DOH established a West Nile Virus Call Center at (202) 535-2323 effective April 11, 2003. Residents and visitors are encouraged to call the Call Center to report standing water, mosquito concerns, and dead birds and to request advice and assistance.
- The Call Center, year-to-date, has received over 30 calls regarding standing water, mosquito infestations and dead birds.

HUMAN SURVEILLANCE

- In 2003, year-to-date, no specimens have been West Nile virus suspect.
- DOH staff conducts active human surveillance.
- DOH staff distributed West Nile virus Physician Alerts by blast fax to health care providers and hospitals detailing the West Nile virus case definition, reporting and specimen collection and submission criteria.
- DOH staff contacts hospital infectious disease practitioners weekly to determine if any patients meet the testing and reporting criteria, effective May 15.
- DOH staff prepares, processes, transports and submits human specimens for testing.
- In 2001, 20 human samples were submitted for testing. All samples tested negative.
- In 2002, 80 human samples were submitted for testing. Thirty-one samples were positive. Three samples were probable, twenty-eight samples were negative and eighteen samples were considered pending because information was not complete.

MOSQUITO SURVEILLANCE

- DOH staff sets both gravid and light traps, throughout the District in each ward per an established grid pattern. A collaborative effort between DOH, National Park Services (NPS) and the Department of Defense (DoD), ensures that trapping locations incorporate all areas of the District.
- DOH staff set mosquito traps and collect specimens from over 30 traps. Traps are set for 2 trap nights per week. Mosquitoes are sorted, prepared for testing and transported the Ft. Meade, MD for arboviral testing.
- The US Army will test all District mosquito specimens for West Nile and other relevant arboviruses and malaria, depending on species.
- In 2001, 870 pools were collected in the District and submitted for testing. Three pools tested positive.
- In 2002, 1315 pools were collected in the District submitted for testing. 84 pools tested positive, including 5 pools of *Aedes sp.* and 79 pools of *Culex sp.* Locations of positive pools are as follows: 3100 blk Conn. Ave (1), Rock Creek Park (17), Ft. McNair (47), US Soldier and Airmen's Home (19).
- There were 19 individual *Anopheles* mosquitoes (possible carrier of malaria) collected and placed into eight pools that were tested for malaria. All pools tested negative.

AVIAN SURVEILLANCE

- 2003: Year to date there have been 18 dead bird reports with the following break-down by ward; Ward 1-3, Ward 2-0, Ward 3-6, Ward 4-4, Ward 5-2, Ward 6-2, Ward 7-1, Ward 8-0.
- Week of April 14-20, four dead birds were reported; April 21-27, three reports, April 28-May 4, six dead bird reports were taken and May 5-11, five reports. Reports have come from Wards 1-7 in the District.
- DOH no longer collects and tests dead birds because West Nile virus is considered endemic in the District. Further positive results of dead bird testing do not provide any relevant information. Information will be collected on sightings of dead birds for empirical information.
- Sightings of dead birds are received and compiled at the Call Center. Residents are asked to report the location and physical description of all dead birds. A database will be established and maintained to capture all information.
- Residents are encouraged to dispose of the birds. Specific detailed instructions for disposal are available on the DC Website and at the Call Center.
- In 2000, the first positive bird was collected on September 28, with a total of 5 positive birds for the year.
- In 2001, the first positive bird was collected on July 10. Nine hundred fourteen (914) birds were collected, four hundred forty-four (444) were tested and three hundred sixty (360) tested positive, with a percent of positivity of 81.08%.
- In 2002, the first positive bird was collected on May 1. Nine hundred five (905) birds were collected, three hundred forty (340) were processed for testing, thirty-one (31) tested negative, one hundred thirty-four (134) were disposed of and one hundred seventy-five (175) birds tested positive with a rate of positivity of 84.95%.
- The positive bird breakdown by ward for 2002 was Ward 1-9, Ward 2-8, Ward 3-123, Ward 4-12, Ward 5-2, Ward 6-7, Ward 7-13, and Ward 8-1.
- In 2003, dead bird reports have been taken from 7 Wards in the District. A total of 18 dead bird reports have been placed.
- In 2003, the break down per Ward for dead bird reports is; Ward 1-3; Ward 2-0; Ward 3-6; Ward 4-4; Ward 5-2; Ward 6-2; Ward 7-1; Ward 8-0.

MOSQUITO CONTROL

- DOH staff larvicide in response to WNV positive human test results, WNV positive mosquito results, mosquito density and nuisance areas and community concerns. The larvicide, a biological product that kills mosquitoes in the larval stage, is placed in catch basins and in areas of standing or stagnant water.
- In April of 2002, DOH staff began larviciding in the District at locations of positive birds and mosquitoes from the previous year in an eight square block area at each location.
- The larvicide application is repeated approximately every 5-6 weeks.
- Larviciding has been determined to be more effective over a period of time than adulticiding. In 2002, mosquito catches were significantly reduced in areas where larviciding efforts were conducted.

- In 2001, DOH staff larvicided three thousand four hundred ninety-six (3, 496) catch basins.
- In 2002, DOH staff larvicided ten thousand eight hundred thirty-five (10,835) catch basins.
- The District does not expect to spray for mosquitoes because of low efficacy; kill offs of non-target species and potential health risks to a high population of persons affected with respiratory problems and compromised immune systems.
- Killing mosquito larva and eliminating mosquito-breeding sites are the most effective practices to reduce the numbers of mosquitoes.
- The Center for Disease Control and Prevention (CDC) recommends that larvicide be used to reduce mosquito populations.
- Year-to-date 2003, DOH staff has begun larviciding catch basins and public space within the District.

MAMMAL SURVEILLANCE

- DOH staff conducts passive mammal surveillance.
- DOH staff distributed information to vets, pet shops, and horse stable managers detailing reporting and specimen collection and submission criteria and protocol.
- No mammals have tested positive in the District for the last four years.
- Letters to all veterinarians in the District have been sent to assist veterinarians in recognizing, submitted samples for testing and reporting West Nile virus cases.

OUTREACH AND EDUCATION

- In 2003, year to date, approximately 75 brochures have been distributed at various events regarding personal protection, standing water and West Nile virus health concerns.
- DOH has prepared an informational brochure emphasizing prevention and protection. The brochure has contact information for the Call Center and website. It has been translated into Spanish, Chinese, Korean and Vietnamese.
- DOH has developed space on the DOH website to provide residents with information, including, the District Arbovirus Surveillance and Response Plan for 2003, methods of controlling mosquitoes, CDC questions and answers, recent press releases and weekly updated surveillance reports.
- DOH has developed an informational script and power point presentation for community presentations.
- In 2002, DOH staff distributed brochures door to door to 46,987 residences, and spoke to residents about prevention and protection techniques. DOH distributed approximately 201,250 brochures in bulk.
- Brochures have been distributed by request to private citizens, day care centers, senior citizen homes, residential housing, hospitals, libraries, schools, parks and recreation centers, churches, other District agencies, NSC Coordinators and all ANC Commissioners.